

Title: **GRASS SHRIMP CULTURING TECHNIQUES**

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1.0 OBJECTIVE

This method provides basic guidelines/requirements for the culturing of grass shrimp.

2.0 HEALTH AND SAFETY

Personnel should wear lab coats or an apron when working in the wet lab.

3.0 PERSONNEL/TRAINING/RESPONSIBILITIES

This method should be restricted to use by or under the supervision of professionals experienced in aquatic toxicity testing.

4.0 REQUIRED AND RECOMMENDED MATERIALS

Aquariums	Filters (Carbon, sleeve)
Air Pumps	Airline tubing
Thermometers	Airstones
Seawater	Heaters
Hatching Chambers	Blue wire
Light Source	Black garbage bag
Gravid Female Shrimp	Artemia

5.0 PROCEDURES

5.1 Hatching Tank

5.1.1 Setting up Tank for Hatching

Use a 10-gallon aquarium.

Fill aquarium 2/3 full with 20 ppt seawater.

Aerate with an airstone.

Take two pieces of blue wire and bend to form a support for the hatching chambers. This will allow the chambers to be suspended in the aquarium. If done properly only half (concerning the depth) of the chambers will be submerged.

A light source should be set up so that it illuminates the bottom of the tank.

A black garbage will be placed over the aquarium to block out external light.

5.1.2 Hatching Chambers

Place a single gravid female in each compartment of the hatching chamber. Only use females whose clutches (upon visual inspection) possess eyespots. This will ensure that the embryos will hatch in a few days.

Secure the lid of the hatching chamber with rubber bands.

Place the hatching chambers into the aquarium. Chambers should be placed across the wire in such the manner that the mess sides are actually the top and the bottom of the chamber. This will allow the larvae to exit the compartment upon hatching. This also allows the females to be fed during the hatching process.

Up to 3 hatching chambers can be placed in an aquarium.

The hatching tank should be checked every morning to see if hatching occurred.

5.2 When Hatching Occurs

Remove the garbage bag.

Remove the hatching chambers from the aquarium. Remove all the females whose clutches have hatched. If more larvae are needed replace the females.

Remove the blue wire support and the airstone.

Using a dip net, carefully scoop the larvae out of the aquarium. Place larvae into another 10-gallon aquarium. This aquarium should be filled with 20 ppt seawater and should be aerated. Feed newly-hatched larvae Artemia.

Put airstone, blue wire support, and hatching chambers back into the aquarium.

Fed gravid females Artemia.

Cover tank with garbage bag.

This procedure should be repeated until the desired number of larvae is acquired.

5.3 As Larvae Develop

Larvae should be fed Artemia daily.

If hatching during the winter, a heater maybe required in order to maintain the water at an optimal temperature for growth.

Water changes should be done every few days. This decision can be made on a visual basis.

Once the larvae have metamorphosed to post-larvae, a foam filter can be added to the tank.

As the larvae develop further, they can be moved to a 20-gallon tank with an Aquaclear (200) Filter.

Refer to the SOP for Aquarium Maintenance.

6.0 QUALITY ASSURANCE/QUALITY CONTROL

7.0 REFERENCES

N/A